

CLAIMS

I claim:

- 5 1. An optical system for performing mathematical operations, the system comprising: a plurality of phosphor objects positioned such that the objects may receive the light from at least one other object; an exciting means positioned in proximity to the objects for exciting at least one of the objects with light having a known intensity which may be selectively varied; and
- 10 10 quantifying means positioned in proximity to the objects and to the exciting means for determining the intensity of at least one object and at least one exciting means.
- 15 2. The system as described in claim 2, further comprising a quenching means for altering the luminescence of at least one of the objects and positioned in proximity to the objects to be affected such that the light from the quenching means will affect only the intended objects.
- 20 3. The system as described in claim 2, further comprising an adjusting means for varying the coupling strength between at least one combination of at least two of the interacting objects from zero to the value appropriate for the given application and being positioned in proximity to the interacting objects so as to accomplish the adjustment.
- 25 4. The system as described in claim 3, further comprising a baffling means integrated into the system for assuring that any source of light affects only the objectives preselected to receive that specific light.
- 30 5. The system as described in claim 2, further comprising a baffling means integrated into the system for assuring that any source of light affects only the objectives preselected to receive that specific light.

6. The system as described in claim 1, further comprising an adjusting means for varying the coupling strength between at least one combination of at least two of the interacting objects from zero to the value appropriate for the given application and being positioned in proximity to the interacting objects so as to accomplish the adjustment.
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7. The system as described in claim 6, further comprising a baffling means integrated into the system for assuring that any source of light affects only the objectives preselected to receive that specific light.
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8. The system as described in claim 1, further comprising a baffling means integrated into the system for assuring that any source of light affects only the objectives preselected to receive that specific light.
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9. An optical system for performing mathematical operations, the system comprising: a phosphor object; an exciting means positioned in proximity to the object for exciting the object with light having a known intensity which may be selectively varied; and a quantifying means positioned in proximity to the object and the exciting means for determining the intensity of the object and the exciting means.
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10. The system as described in claim 9, further comprising a quenching means for altering the luminescence of the object and positioned in proximity to the object such that the light from the quenching means affects the object.

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